

ARC KEEPER®

AK400PLS, AK400PLS-208V, AK400PLS-240V

Pulse-Start HID Backup Ballast

PHILIPS bodine

A Division Of Philips Electronics North America Corporation

Arc Maintenance Device for High Intensity Discharge lamps

Product Summary

UL LISTED/CSA CERTIFIED

Factory or Field Installation
(Indoor and Damp)



Initial Power Output

20% to 30% of Nominal Power

Arc Maintenance Time

2 Minutes Continuous

Full Warranty

5 Years (NOT pro-rata)

Maximum Input Electrical Rating

AK400PLS

120 VAC, 500 mA, 6.0 W

277 VAC, 500 mA, 9.0 W

AK400PLS-208V

120 VAC, 500 mA, 6.0 W

208 VAC, 500 mA, 9.0 W

AK400PLS-240V

120 VAC, 500 mA, 6.0 W

240 VAC, 500 mA, 9.0 W

All models operate at 50/60 Hz

Battery

Field-Replaceable, High-Temperature,
Maintenance-Free Nickel-Cadmium Battery
7- to 10-Year Life Expectancy

Battery Charging Current

100 mA

Charging Indicator Light

LED

Temperature Rating (Ambient)

0°C to +55°C (32°F to 131°F)

Dimensions

12.25" x 7.25" x 1.75"

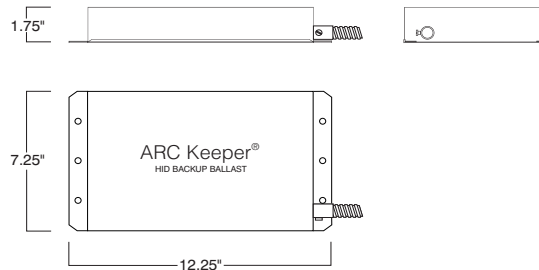
(311 mm x 184 mm x 44 mm)

Weight

6.5 lbs. (2.9 kg)

Mounting Holes

A total of six holes, 0.25 inches in diameter each, are provided for mounting. Three holes spaced 1.725 inches apart (center to center) are located on each end of the unit. Hole spacing between the ends is 11.69 inches (center to center).



APPLICATION

The pulse-start ARC Keeper is a battery-operated backup ballast that catches and maintains the arc of one pulse-start metal halide HID lamp during AC power sags, interruptions or failure. The ARC Keeper models AK400PLS, AK400PLS-208V and AK400PLS-240V are for use with one 200 W to 400 W reactor style (R), high-reactance autotransformer (HX) or constant-wattage autotransformer (CWA) pulse-start magnetic ballast (with ignitor) operating one compatible 200 W to 400 W HID pulse-start metal halide lamp. The input line voltage for the AK400PLS is 120 or 277 VAC (50/60 Hz). The input line voltage for the AK400PLS-208V is 120 or 208 VAC (50/60 Hz). The input line voltage for the AK400PLS-240V is 120 or 240 VAC (50/60 Hz). The pulse-start ARC Keeper detects AC power line disturbances and operates the HID lamp with sufficient power to keep the lamp arc from extinguishing during power line disturbances. (The lamp arc, in a typical HID lamp, will extinguish if an AC power failure persists for more than four milliseconds. The pulse-start ARC Keeper detects AC power line disturbances, then supplies supplemental power to the lamp within approximately two milliseconds, thereby maintaining the lamp arc for up to 2 minutes.) The pulse-start ARC Keeper is for use in indoor or damp location fixtures. It is not suitable for wet or hazardous locations. The pulse-start ARC Keeper may be used with an auxiliary generator. The pulse-start ARC Keeper's two-minute time limit allows more than ample time for an auxiliary generator to pick up and support the metal halide lamp for emergency lighting purposes.

OPERATION

During normal operation, the battery charger supplies charging current to the battery while the AC power line voltage monitor monitors the line voltage waveform. The magnetic ballast* is allowed to operate the lamp as normal. When there is a voltage sag, power interruption or failure of the AC power normally supplied to the magnetic ballast,* the pulse-start ARC Keeper will detect this problem and respond within approximately two milliseconds. The pulse-start ARC Keeper will apply high-frequency power to the lamp to supplement the low-frequency 60 Hz power normally supplied to the lamp by the magnetic ballast.* In this manner, the lamp arc is maintained and kept from extinguishing. When the AC power interruption event is over, the pulse-start ARC Keeper will withdraw supplemental high-frequency power from the lamp only after the AC power line has stabilized. When AC power is restored and deemed stable, the pulse-start ARC Keeper returns to the monitoring mode as well as the battery-charging mode. If, on the other hand, there is a long-term power failure such that the power failure persists for more than two minutes, the pulse-start ARC Keeper inverter ballast will operate the lamp arc for two minutes maximum, then turn off. A full 24 hours of charge is required for full recharge. During day-to-day normal operation, the pulse-start ARC Keeper will not try to maintain the lamp arc immediately when the lamp is first turned on; rather, there will be a five-minute delay before pulse-start ARC Keeper will attempt to "catch" the arc. This delay allows the lamp to warm up each time it is turned on from a cold start. If the wall switch is turned off in order to turn the lamp off, the pulse-start ARC Keeper will recognize that switched power has been turned off but unswitched power is still applied. The pulse-start ARC Keeper will release control of the arc and allow the lamp to turn off as intended, then return to battery-charging mode.

*Compatible pulse-start magnetic ballasts include reactor style (R), high-reactance autotransformer (HX) and constant-wattage autotransformer (CWA).

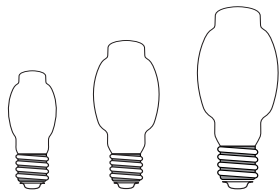
Specifiers Reference

Project _____ Type _____ Model No. _____

Comments _____

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INSTALLATION

The pulse-start ARC Keeper must be powered from the same branch circuit for both the switched and unswitched hot leads. The magnetic ballast* is fed from the pulse-start ARC Keeper. The pulse-start ARC Keeper may be installed in close proximity to the fixture or remote from the fixture. Remote distance is primarily limited by the ignitor used. Contact factory for remote mounting distances.

SPECIFICATION

Arc maintenance shall be provided by using one Philips Bodine ARC Keeper Model _____ [AK400PLS (for 120 or 277 VAC line voltage); AK400PLS-208V (for 120 or 208 VAC line voltage); or AK400PLS-240V (for 120 or 240 VAC line voltage)] in conjunction with one _____ (200 to 400 W) _____ [reactor style (R), high-reactance autotransformer (HX) or constant-wattage autotransformer (CWA)] pulse-start magnetic ballast (with ignitor) operating one compatible _____ (200 to 400 W) HID pulse-start metal halide lamp. The pulse-start ARC Keeper shall have a maximum run time of two (2) minutes. The pulse-start ARC Keeper backup ballast shall consist of EMI filters; a rechargeable, high-temperature 12 V, 1.5 Ah nickel-cadmium battery; a battery charger; a high-frequency inverter ballast; an AC power line voltage monitor; and control circuitry contained in one 12 1/4" x 7 1/4" x 1 3/4" white metal case. A solid-state charging indicator light, which is an integral part of the pulse-start ARC Keeper unit, is provided to monitor the charger to indicate the presence of battery charging current. Installation hardware shall be provided. The pulse-start ARC Keeper shall have a maximum input power of 6 W at 120 VAC, 50/60 Hz and 9 W at 208, 240, or 277 VAC, 50/60 Hz. The pulse-start ARC Keeper shall be UL Listed, CSA Certified, suitable for damp location installation and warranted for five years from date of purchase.

WARRANTY

The pulse-start ARC Keeper is warranted for a full five (5) years from date of purchase. This warranty covers only properly installed Philips Bodine backup ballasts used under normal conditions. For the warranty period, Philips Emergency Lighting will, at its option, repair or replace without charge a defective backup ballast, provided it is returned to the factory transportation prepaid and our inspection determines it to be defective under terms of the warranty. Repair or replacement, as stated above, shall constitute the purchaser's exclusive warranty, which does not extend to transportation, installation, labor or any other charges; nor does it apply to any equipment of another manufacturer used in conjunction with the backup ballast.

UL, CSA and CODE COMPLIANCE

The pulse-start ARC Keeper has been tested by Underwriters Laboratories in accordance with the standards set forth in UL 924, "Auxiliary Lighting and Power Equipment," and by the Canadian Standards Association (CSA) in accordance with the standards set forth in C22.2 No. 141, "Unit Equipment for Emergency Lighting." The ARC Keeper is UL Listed and CSA Certified for factory or field installation.

*Compatible pulse-start magnetic ballasts include reactor style (R), high-reactance autotransformer (HX) and constant-wattage autotransformer (CWA).

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